ETIMEX Primary Packaging GmbH
Martin-Adolff-Str. 44
D - 89165 Dietenheim (Germany)
Tel: +49 (0)7347 / 67-0 Fax: +49 (0)7347 / 67-439

Technical Specification
Product: Purelay®-Pharm FG-100E

Properties		*Test method*	*Unit*	*Value*	*Tolerance*
1.0	**Description**	polypropylene-sheet (PP) for pharmaceutical packaging			
2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***300 - 800***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colours	-	-	1. ***clear (not coloured)*** 2. ***white opaque***	
2.4	Density	DIN EN ISO 118-3	g/cm³	***0.90 - 0.92***	
2.5	Materials	PP-homopolymer: raw materials used meet the corresponding requirements of the EC and FDA-regulations for pharmaceutical packaging			
3.0	**Thermal Properties**				
3.1	Melt Flow Index (MFI)	DIN EN ISO 1133 (230° / 2,16 kg)	g/10min	***4.5***	± 1.5
3.2	Crystalline melting point	ISO 11357-3	°C	***162***	± 3
3.3	Shrinkage (machine & cross dir.)	internal (140°/20min)	%	***+1 to -2***	
4.0	**Mechanical Properties**				
4.1	Tensile strength (machine & cross dir.)	DIN EN ISO 527-3	N/mm²	***> 30***	
4.2	Elongation at break (machine & cross dir.)	DIN EN ISO 527-3	%	> ***1000***	

5.0 Optical Properties

Colour: according to reference
Gloss: outer surfaces glossy

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
6.0	**Permeability (sheet thickness 300 µm)**				
6.1	WVTR	Lyssy *)			
		(38°/90-0% RH)	g/m²·d	***< 0.4***	
6.2	OTR	DIN 53 380			
		(23°/0% RH)	cm³/m²·d·bar	***< 300***	
7.0	**Reel format**				
	Core: inner diameter		mm	***76***	± 1
	thickness		mm	***8***	
	Reel: outer diameter		mm	***max. 750***	

8.0 Labelling

Reel:	reel labels on the sheet and in the core
Pallets:	pallets labelled on the side and on the front end

9.0 Packaging

Reel:	packed dustproof in PE-liner
Pallets:	Europallets 800 x 1200 mm, clean, dry, in good condition

10.0 Storage recommended: dry conditions; 18 - 28 °C; 40 - 65 % RH
Shelf life: 12 months (based at production date)

11.0 Production & Documentation

- production in clean room (US Fed Std. 209 E; 100 000) and according to GMP-regulations
- documentation: Certificate of Analysis; roll distribution diagram
- production according to Quality-Management-System ISO 9001

*) Tested at Bayer Lab, Leverkusen.

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Technical Specification
Product: PURELAY®-Pharm FG-100E

Properties		*Test method*	*Unit*	*Value*	*Tolerance*
1.0	**Description**	polypropylene-sheet (PP) for pharmaceutical packaging			
2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***250***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colour	-	-	***clear (not coloured)***	
2.4	Density	DIN EN ISO 1183-3	g/cm³	***0.90***	± 0.01
2.5	Materials	PP-homopolymer raw materials used meet the corresponding requirements of the EC and FDA-regulations for pharmaceutical packaging			
3.0	**Thermal Properties**				
3.1	Melt Flow Index (MFI)	DIN EN ISO 1133 (230° / 2,16 kg)	g/10min	***4.5***	± 1.5
3.2	Crystalline melting point	ISO 11357-3	°C	***162***	± 3
3.3	Shrinkage (machine & cross dir.)	internal (140°/20min)	%	***+1 to -2***	
4.0	**Mechanical Properties**				
4.1	Tensile strength (machine & cross dir.)	DIN EN ISO 527-3	N/mm²	***> 30***	
4.2	Elongation at break (machine & cross dir.)	DIN EN ISO 527-3	%	***> 1000***	
5.0	**Optical Properties**				
5.1	Gloss	DIN 67 530	%	***> 90***	
5.2	Haze	ASTM D-1003	%	***< 17***	

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Technical Specification
Product: PURELAY®-Pharm FG-100E

Properties		*Test method*	*Unit*	*Value*	*Tolerance*
6.0	**Permeability**				
6.1	WVTR	Lyssy (38°/90-0% RH)	g/m²·d·	***< 0.5***	
6.2	OTR	DIN 53 380 (23°/0% RH)	cm³/m²·d·bar	***< 400***	
7.0	**Reel format**				
	Core: inner diameter		mm	***76***	± 1
	thickness		mm	***8***	
	Reel: outer diameter		mm	***max. 750***	
8.0	**Labelling**				
	Reel:	reel labels on the sheet and in the core			
	Pallets:	pallets labelled on the side and on the front end			
9.0	**Packaging**				
	Reel:	packed dustproof in PE-liner			
	Pallets:	Europallets 800 x 1200 mm, clean, dry, in good condition			
10.0	**Storage**	recommended: dry conditions; 18 - 28 °C; 40 - 65 % RH			

11.0 Production & Documentation

- production in clean room (US Fed Std. 209 E; 100 000) and according to GMP-regulations
- documentation: Certificate of Analysis; roll distribution diagram
- production according to Quality-Management-System ISO 9001

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
1.0	**Description**	polypropylene-sheet (PP) for pharmaceutical packaging			
2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***250***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colour	-	-	***clear (not coloured)***	
2.4	Density	DIN EN ISO 1183-3	g/cm³	***0.90***	± 0.01
2.5	Materials	PP-homopolymer raw materials used meet the corresponding requirements of the EC and FDA-regulations for pharmaceutical packaging			
3.0	**Thermal Properties**				
3.1	Melt Flow Index (MFI)	DIN EN ISO 1133 (230° / 2,16 kg)	g/10min	***4.5***	± 1.5
3.2	Crystalline melting point	ISO 11357-3	°C	***162***	± 3
3.3	Shrinkage (machine & cross dir.)	internal (140°/20min)	%	***+1 to -2***	
4.0	**Mechanical Properties**				
4.1	Tensile strength (machine & cross dir.)	DIN EN ISO 527-3	N/mm²	***> 30***	
4.2	Elongation at break (machine & cross dir.)	DIN EN ISO 527-3	%	> ***1000***	
5.0	**Optical Properties**				
5.1	Gloss	DIN 67 530	%	***> 90***	
5.2	Haze	ASTM D-1003	%	***< 17***	

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
6.0	**Permeability**				
6.1	WVTR	Lyssy (38°/90-0% RH)	g/m²·d·	***< 0.5***	
6.2	OTR	DIN 53 380 (23°/0% RH)	cm³/m²·d·bar	***< 400***	
7.0	**Reel format**				
	Core: inner diameter		mm	***76***	± 1
	thickness		mm	***8***	
	Reel: outer diameter		mm	***max. 750***	

8.0 Labelling

Reel: reel labels on the sheet and in the core
Pallets: pallets labelled on the side and on the front end

9.0 Packaging

Reel: packed dustproof in PE-liner
Pallets: Europallets 800 x 1200 mm, clean, dry, in good condition

10.0 Storage recommended: dry conditions; 18 - 28 °C; 40 - 65 % RH
Shelf life: 12 months (based at production date)

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
1.0	**Description**	polypropylene-sheet (PP) for pharmaceutical packaging			
2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***300***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colour	-	-	***red***	
2.4	Density	DIN EN ISO 1183-3	g/cm³	***0.90***	± 0.01
2.5	Materials	PP-homopolymer raw materials used meet the corresponding requirements of the EC and FDA-regulations for pharmaceutical packaging			
3.0	**Thermal Properties**				
3.1	Melt Flow Index (MFI)	DIN EN ISO 1133 (230° / 2,16 kg)	g/10min	***4.5***	± 1.5
3.2	Crystalline melting point	ISO 11357-3	°C	***162***	± 3
3.3	Shrinkage (machine & cross dir.)	internal (140°/20min)	%	***+1 to -2***	
4.0	**Mechanical Properties**				
4.1	Tensile strength (machine & cross dir.)	DIN EN ISO 527-3	N/mm²	***> 30***	
4.2	Elongation at break (machine & cross dir.)	DIN EN ISO 527-3	%	> ***1000***	
5.0	**Optical Properties**				
5.1	Gloss	DIN 67 530	%	***> 90***	

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
6.0	**Permeability**				
6.1	WVTR	Lyssy *)			
		(38°/90-0% RH)	g/m²·d·	***< 0.4***	
6.2	OTR	DIN 53 380			
		(23°/0% RH)	cm³/m²·d·bar	***< 300***	
7.0	**Reel format**				
	Core: inner diameter		mm	***76***	± 1
	thickness		mm	***8***	
	Reel: outer diameter		mm	***max. 750***	

8.0 Labelling

Reel: reel labels on the sheet and in the core
Pallets: pallets labelled on the side and on the front end

9.0 Packaging

Reel: packed dustproof in PE-liner
Pallets: Europallets 800 x 1200 mm, clean, dry, in good condition

10.0 Storage recommended: dry conditions; 18 - 28 °C; 40 - 65 % RH
Shelf life: 12 months (based at production date)

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1.0	**Description**	polypropylene-sheet (PP) for pharmaceutical packaging			
2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***300***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colour	-	-	***clear (not coloured)***	
2.4	Density	DIN EN ISO 1183-3	g/cm³	***0.90***	± 0.01
2.5	Materials	PP-homopolymer raw materials used meet the corresponding requirements of the EC and FDA-regulations for pharmaceutical packaging			
3.0	**Thermal Properties**				
3.1	Melt Flow Index (MFI)	DIN EN ISO 1133 (230° / 2,16 kg)	g/10min	***4.5***	± 1.5
3.2	Crystalline melting point	ISO 11357-3	°C	***162***	± 3
3.3	Shrinkage (machine & cross dir.)	internal (140°/20min)	%	***+1 to -2***	
4.0	**Mechanical Properties**				
4.1	Tensile strength (machine & cross dir.)	DIN EN ISO 527-3	N/mm²	***> 30***	
4.2	Elongation at break (machine & cross dir.)	DIN EN ISO 527-3	%	> ***1000***	
5.0	**Optical Properties**				
5.1	Gloss	DIN 67 530	%	***> 90***	
5.2	Haze	ASTM D-1003	%	***< 18***	

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
6.0	**Permeability**				
6.1	WVTR	Lyssy *) (38°/90-0% RH)	g/m²·d·	< ***0.4***	
6.2	OTR	DIN 53 380 (23°/0% RH)	cm³/m²·d·bar	< ***300***	
7.0	**Reel format**				
	Core: inner diameter		mm	***76***	± 1
	thickness		mm	***8***	
	Reel: outer diameter		mm	***max. 750***	

8.0 Labelling

Reel: reel labels on the sheet and in the core
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9.0 Packaging

Reel: packed dustproof in PE-liner
Pallets: Europallets 800 x 1200 mm, clean, dry, in good condition

10.0 Storage

recommended: dry conditions; 18 - 28 °C; 40 - 65 % RH
Shelf life: 12 months (based at production date).

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1.0	**Description**	polypropylene-sheet (PP) for pharmaceutical packaging			
2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***300***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colour	-	-	***white opaque***	
2.4	Density	DIN EN ISO 1183-3	g/cm³	***0.92***	± 0.01
2.5	Materials	PP-homopolymer raw materials used meet the corresponding requirements of the EC and FDA-regulations for pharmaceutical packaging			
3.0	**Thermal Properties**				
3.1	Melt Flow Index (MFI)	DIN EN ISO 1133 (230° / 2,16 kg)	g/10min	***4.5***	± 1.5
3.2	Crystalline melting point	ISO 11357-3	°C	***162***	± 3
3.3	Shrinkage (machine & cross dir.)	internal (140°/20min)	%	***+1 to -2***	
4.0	**Mechanical Properties**				
4.1	Tensile strength (machine & cross dir.)	DIN EN ISO 527-3	N/mm²	***> 30***	
4.2	Elongation at break (machine & cross dir.)	DIN EN ISO 527-3	%	> ***1000***	
5.0	**Optical Properties**				
5.1	Gloss	DIN 67 530	%	***> 90***	

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
6.0	**Permeability**				
6.1	WVTR	Lyssy *)			
		(38°/90-0% RH)	g/m²·d·	***< 0.4***	
6.2	OTR	DIN 53 380			
		(23°/0% RH)	cm³/m²·d·bar	***< 300***	
7.0	**Reel format**				
	Core: inner diameter		mm	***76***	± 1
	thickness		mm	***8***	
	Reel: outer diameter		mm	***max. 750***	

8.0 Labelling

Reel: reel labels on the sheet and in the core
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9.0 Packaging

Reel: packed dustproof in PE-liner
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1.0	**Description**	polypropylene-sheet (PP) for pharmaceutical packaging			
2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***350***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colour	-	-	***clear (not coloured)***	
2.4	Density	DIN EN ISO 1183-3	g/cm³	***0.90***	± 0.01
2.5	Materials	PP-homopolymer raw materials used meet the corresponding requirements of the EC and FDA-regulations for pharmaceutical packaging			
3.0	**Thermal Properties**				
3.1	Melt Flow Index (MFI)	DIN EN ISO 1133 (230° / 2,16 kg)	g/10min	***4.5***	± 1.5
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3.3	Shrinkage (machine & cross dir.)	internal (140°/20min)	%	***+1 to -2***	
4.0	**Mechanical Properties**				
4.1	Tensile strength (machine & cross dir.)	DIN EN ISO 527-3	N/mm²	***> 30***	
4.2	Elongation at break (machine & cross dir.)	DIN EN ISO 527-3	%	> ***1000***	
5.0	**Optical Properties**				
5.1	Gloss	DIN 67 530	%	***> 90***	
5.2	Haze	ASTM D-1003	%	***< 25***	

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
6.0	**Permeability**				
6.1	WVTR	Lyssy (38°/90-0% RH)	g/m²·d·	***< 0,25***	
6.2	OTR	DIN 53 380 (23°/0% RH)	cm³/m²·d·bar	***< 250***	
7.0	**Reel format**				
	Core: inner diameter		mm	***76***	± 1
	thickness		mm	***8***	
	Reel: outer diameter		mm	***max. 750***	

8.0 Labelling

Reel: reel labels on the sheet and in the core
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9.0 Packaging

Reel: packed dustproof in PE-liner
Pallets: Europallets 800 x 1200 mm, clean, dry, in good condition

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Shelf life: 12 months (based at production date)

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1.0	**Description**	polypropylene-sheet (PP) for pharmaceutical packaging			
2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***350***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colour	-	-	***white opaque***	
2.4	Density	DIN EN ISO 1183-3	g/cm³	***0.92***	± 0.01
2.5	Materials	PP-homopolymer raw materials used meet the corresponding requirements of the EC and FDA-regulations for pharmaceutical packaging			
3.0	**Thermal Properties**				
3.1	Melt Flow Index (MFI)	DIN EN ISO 1133 (230° / 2,16 kg)	g/10min	***4.5***	± 1.5
3.2	Crystalline melting point	ISO 11357-3	°C	***162***	± 3
3.3	Shrinkage (machine & cross dir.)	internal (140°/20min)	%	***+1 to -2***	
4.0	**Mechanical Properties**				
4.1	Tensile strength (machine & cross dir.)	DIN EN ISO 527-3	N/mm²	***> 30***	
4.2	Elongation at break (machine & cross dir.)	DIN EN ISO 527-3	%	> ***1000***	
5.0	**Optical Properties**				
5.1	Gloss	DIN 67 530	%	***> 90***	

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
6.0	**Permeability**				
6.1	WVTR	Lyssy *)			
		(38°/90-0% RH)	g/m²·d·	***< 0.25***	
6.2	OTR	DIN 53 380			
		(23°/0% RH)	cm³/m²·d·bar	***< 250***	
7.0	**Reel format**				
	Core: inner diameter		mm	***76***	± 1
	thickness		mm	***8***	
	Reel: outer diameter		mm	***max. 750***	

8.0 Labelling

Reel: reel labels on the sheet and in the core
Pallets: pallets labelled on the side and on the front end

9.0 Packaging

Reel: packed dustproof in PE-liner
Pallets: Europallets 800 x 1200 mm, clean, dry, in good condition

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
1.0	**Description**	polypropylene-sheet (PP) for pharmaceutical packaging			
2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***400***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colour	-	-	***clear (not coloured)***	
2.4	Density	DIN EN ISO 1183-3	g/cm³	***0.90***	± 0.01
2.5	Materials	PP-homopolymer raw materials used meet the corresponding requirements of the EC and FDA-regulations for pharmaceutical packaging			
3.0	**Thermal Properties**				
3.1	Melt Flow Index (MFI)	DIN EN ISO 1133 (230° / 2,16 kg)	g/10min	***4.5***	± 1.5
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3.3	Shrinkage (machine & cross dir.)	internal (140°/20min)	%	***+1 to -2***	
4.0	**Mechanical Properties**				
4.1	Tensile strength (machine & cross dir.)	DIN EN ISO 527-3	N/mm²	***> 30***	
4.2	Elongation at break (machine & cross dir.)	DIN EN ISO 527-3	%	> ***1000***	
5.0	**Optical Properties**				
5.1	Gloss	DIN 67 530	%	***> 90***	
5.2	Haze	ASTM D-1003	%	***< 35***	

ETIMEX Primary Packaging GmbH
Martin-Adolff-Str. 44
D - 89165 Dietenheim (Germany)
Tel: +49 (0)7347 / 67-0 Fax: +49 (0)7347 / 67-439

Technical Specification
Product: PURELAY®-Pharm FG-100E

Properties		*Test method*	*Unit*	*Value*	*Tolerance*
6.0	**Permeability**				
6.1	WVTR	Lyssy (38°/90-0% RH)	g/m²·d·	***< 0,25***	
6.2	OTR	DIN 53 380 (23°/0% RH)	cm³/m²·d·bar	***< 250***	
7.0	**Reel format**				
	Core: inner diameter		mm	***76***	± 1
	thickness		mm	***8***	
	Reel: outer diameter		mm	***max. 750***	

8.0 Labelling

Reel: reel labels on the sheet and in the core
Pallets: pallets labelled on the side and on the front end

9.0 Packaging

Reel: packed dustproof in PE-liner
Pallets: Europallets 800 x 1200 mm, clean, dry, in good condition

10.0 Storage recommended: dry conditions; 18 - 28 °C; 40 - 65 % RH
Shelf life: 12 months (based at production date)

11.0 Production & Documentation

- production in clean room (US Fed Std. 209 E; 100 000) and according to GMP-regulations
- documentation: Certificate of Analysis; roll distribution diagram
- production according to Quality-Management-System ISO 9001

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
1.0	**Description**	polypropylene-sheet (PP) for pharmaceutical packaging			
2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***500***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colour	-	-	***clear (not coloured)***	
2.4	Density	DIN EN ISO 1183-3	g/cm³	***0.90***	± 0.01
2.5	Materials	PP-homopolymer raw materials used meet the corresponding requirements of the EC and FDA-regulations for pharmaceutical packaging			
3.0	**Thermal Properties**				
3.1	Melt Flow Index (MFI)	DIN EN ISO 1133 (230° / 2,16 kg)	g/10min	***4.5***	± 1.5
3.2	Crystalline melting point	ISO 3146	°C	***162***	± 3
3.3	Shrinkage (machine & cross dir.)	intern (140°/20min)	%	***+1 to -2***	
4.0	**Mechanical Properties**				
4.1	Tensile strength (machine & cross dir.)	DIN EN ISO 527-3	N/mm²	***> 30***	
4.2	Elongation at break (machine & cross dir.)	DIN EN ISO 527-3	%	> ***1000***	
5.0	**Optical Properties**				
5.1	Gloss	DIN 67 530	%	***> 85***	
5.2	Haze	ASTM D-1003	%	***< 50***	

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
6.0	**Permeability**				
6.1	WVTR	DIN 53 122/2 (38°/90-0% RH)	g/m²·d·	***< 0.2***	
6.2	OTR	DIN 53 380 (23°/0% RH)	cm³/m²·d·bar	***< 200***	
7.0	**Reel format**				
	Core: inner diameter		mm	***76***	± 1
	thickness		mm	***8***	
	Reel: outer diameter		mm	***max. 750***	

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Reel: packed dustproof in PE-liner
Pallets: Europallets 800 x 1200 mm, clean, dry, in good condition

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1.0	**Description**	polypropylene-sheet (PP) for pharmaceutical packaging			
2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***600***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colour	-	-	***clear (not coloured)***	
2.4	Density	DIN EN ISO 1183-3	g/cm³	***0.90***	± 0.01
2.5	Materials	PP-homopolymer raw materials used meet the corresponding requirements of the EC and FDA-regulations for pharmaceutical packaging			
3.0	**Thermal Properties**				
3.1	Melt Flow Index (MFI)	DIN EN ISO 1133 (230° / 2,16 kg)	g/10min	***4.5***	± 1.5
3.2	Crystalline melting point	ISO 11357-3	°C	***162***	± 3
3.3	Shrinkage (machine & cross dir.)	intern (140°/20min)	%	***+1 to -2***	
4.0	**Mechanical Properties**				
4.1	Tensile strength (machine & cross dir.)	DIN EN ISO 527-3	N/mm²	***> 30***	
4.2	Elongation at break (machine & cross dir.)	DIN EN ISO 527-3	%	> ***1000***	
5.0	**Optical Properties**				
5.1	Gloss	DIN 67 530	%	***> 85***	
5.2	Haze	ASTM D-1003	%	***< 55***	

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6.0	**Permeability**				
6.1	WVTR	DIN 53 122/2 (38°/90-0% RH)	g/m²·d·	***< 0.2***	
6.2	OTR	DIN 53 380 (23°/0% RH)	cm³/m²·d·bar	***< 130***	
7.0	**Reel format**				
	Core: inner diameter		mm	***76***	± 1
	thickness		mm	***8***	
	Reel: outer diameter		mm	***max. 750***	

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1.0	**Description**	polypropylene-sheet (PP) for pharmaceutical packaging			
2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***700***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colour	-	-	***clear (not coloured)***	
2.4	Density	DIN EN ISO 1183-3	g/cm³	***0.90***	± 0.01
2.5	Materials	PP-homopolymer raw materials used meet the corresponding requirements of the EC and FDA-regulations for pharmaceutical packaging			
3.0	**Thermal Properties**				
3.1	Melt Flow Index (MFI)	DIN EN ISO 1133 (230° / 2,16 kg)	g/10min	***4.5***	± 1.5
3.2	Crystalline melting point	ISO 11357-3	°C	***162***	± 3
3.3	Shrinkage (machine & cross dir.)	internal (140°/20min)	%	***+1 to -2***	
4.0	**Mechanical Properties**				
4.1	Tensile strength (machine & cross dir.)	DIN EN ISO 527-3	N/mm²	***> 30***	
4.2	Elongation at break (machine & cross dir.)	DIN EN ISO 527-3	%	> ***1000***	
5.0	**Optical Properties**				
5.1	Gloss	DIN 67 530	%	***> 85***	
5.2	Haze	ASTM D-1003	%	***< 60***	

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Properties		*Test method*	*Unit*	*Value*	*Tolerance*
6.0	**Permeability**				
6.1	WVTR	Lyssy (38°/90-0% RH)	g/m²·d·	***< 0.20***	
6.2	OTR	DIN 53 380 (23°/0% RH)	cm³/m²·d·bar	***< 130***	
7.0	**Reel format**				
	Core: inner diameter		mm	***76***	± 1
	thickness		mm	***8***	
	Reel: outer diameter		mm	***max. 750***	

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2.0	**Dimensions**				
2.1	Sheet thickness	DIN 53 370	µm	***800***	± 5 %
2.2	Sheet width	-	mm	***to customer order***	± 0.5
2.3	Colour	-	-	***clear (not coloured)***	
2.4	Density	DIN EN ISO 1183-3	g/cm³	***0.90***	± 0.01
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5.0	**Optical Properties**				
5.1	Gloss	DIN 67 530	%	***> 85***	
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